PAT-NO: JP02001082954A

DOCUMENT-IDENTIFIER: JP 2001082954 A

TITLE: IMAGE PROCESSING DEVICE AND IMAGE PROCESSING
DISTANCE-
                     MEASURING METHOD

PUBN-DATE: March 30, 2001

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APPL-NO: JP11258907

APPL-DATE: September 13, 1999

INT-CL (IPC):   G01C003/06, G01B011/00 , G06T007/00

ABSTRACT:

    PROBLEM TO BE SOLVED: To accurately measure a distance by **extracting
each**
edge component from each photographed image to create a projection drawing,
corresponding each edge line extracted corresponding to each peak position
to
determine a combination candidate, and determining parallax.

    SOLUTION: Right and left cameras 1, 2 are simultaneously photographed by
one
shot by a simultaneously generating circuit 6, and right and left images
are
stored on image memories 7, 8 by image input means 4, 5. **Edge extracting**
means
10, 11 create contour lines based on concentration differences in the right
and
left images, a space filtering is provided to take out a vertical edge
component, and this is projected on the X-axis to generate a projection
drawing. A peak capable of matching is suitably selected from peaks of the
projection drawing considering a threshold, an adjacent **edge interval,** and
sharpness, and right and left edge-line images are created using the peak
value
as a length of the edge lines. A matching process is performed for the

right
and left edge- line images, and each parallax is determined based on a provided
combination candidate. A distance is calculated on the basis of each parallax,
and an obstacle recognizing means 13 determines an obstacle.